

The South American Katydid Genus *Acanthacara*: Descriptive Notes and Subfamily Position (Orthoptera: Tettigoniidae, Agraeciinae)

Ashley B. Gurney

Systematic Entomology Laboratory, Agr. Res. Serv., USDA,
c/o U.S. National Museum, Washington, D.C. 20560

ABSTRACT

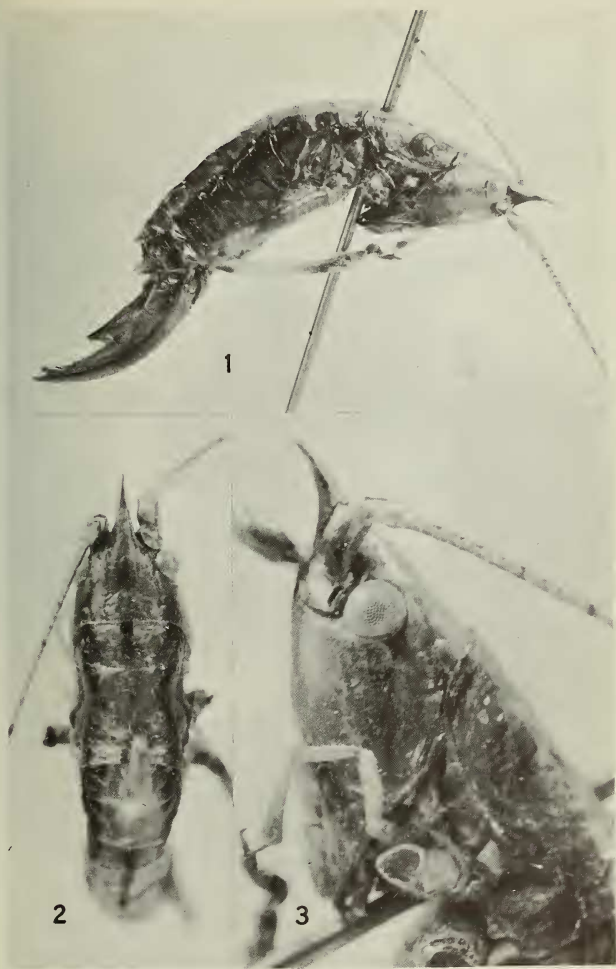
The katydid genus *Acanthacara*, based on the single species *A. acuta* Scudder, is found to belong to the tettigoniid subfamily Agraeciinae. The taxonomic basis for this assignment is given. In early U.S. literature the name *Acanthacara* was applied to the present genus *Belocephalus*.

During recent studies of various Copiphorinae, I became interested in the genus *Acanthacara*, based by Scudder (1869) on a single species from Ecuador, which Karny (1913a: 10) tentatively placed in the Copiphorinae. After having been privileged to examine the unique type specimen of *A. acuta* Scudder belonging to the Museum of Comparative Zoology, and finding the specimen to belong to the subfamily Agraeciinae instead of the Copiphorinae, it appears worthwhile to publish clarifying notes and photos of the previously unfigured and scantily described holotype. A sidelight of this study has been the examination of several early mistaken uses of the name *Acanthacara* for North American species which in reality belong to *Belocephalus*. This old usage is now chiefly of historical interest, but it is documented briefly for students who otherwise may be confused.

The unique holotype of *Acanthacara acuta* (Fig. 1-3) is a female, apparently in the last instar prior to maturity. It is labelled "Quito to Napo" and was collected by Professor James Orton of Vassar College while on an 1867 expedition in Ecuador. According to Orton (1876: 177-182), the journey from Quito to Napo occurred between October 30 and about mid-November, 1867, but it is uncertain whether the type specimen was collected east of the main mountain ridge and thus in Atlantic drainage.

Of the specimen's legs, only the right middle one remains, though a posterior one was described by Scudder. The ovipositor, even in his time, was damaged. The following descriptive notes supplement Scudder's: A transverse line of demarcation between base of fastigium and front, but no sulcus; prosternum unarmed; posterior margin of pronotum very broadly concave; vestiges of immature tegmina present; middle femur unarmed on ventral or dorsal margins, genicular lobes each with 1 apical-ventral spine, the anterior one clearly shorter than posterior one; tibia with 5 pairs of small ventral spines in apical half; tarsal segments 1 and 2 with lateral linear furrows; last tergum prior to epiproct with posterior margin deeply emarginate with sharply V-shaped incision; apex of subgenital plate nearly entire, with trace of emargination at narrowed apex. Measurements in millimeters: Overall, 20.5; fastigium in front of anterior margin of compound eyes, 2.0; pronotal length, 3.7, greatest width, 3.3; length of posterior genicular spine of middle femur, 0.45.

Although Scudder (1869) initially did not give a subfamily assignment for *Acanthacara*, he later (Scudder, 1896: 210) referred it to the Pseudophyllinae. Contrary to his announced reason, however, I do not find the margins of the antennal sockets as strongly formed as in most Pseudophyllinae, and the structure of the vertex is different from



Figs. 1-3.—Holotype of *Acanthacara acuta* Scudder. 1, lateral view; 2, dorsal view; 3, lateral view (slightly ventral) of head and thorax (all much enlarged) (Photos by Victor E. Krantz, Smithsonian Institution).

Pseudophyllinae with which I am familiar. The logical choice of subfamily position thus appears to be either Copiphorinae, as favored by Karny (1913a), or Agraeciinae, and my judgement is that the characters of *Acanthacara* place it in the subfamily Agraeciinae, where it seems closely related to *Agraecia* and *Eschatoceras*.

The following characters indicate an agraeciine rather than a copiphorine position: 1) vertex separated from frons only by a line of demarcation; 2) vertex without a ventral tooth near base; 3) basal part of fastigium above narrower than first antennal segment; 4) ovipositor curved dorsally; 5) general color brownish instead of green.

Several described species of *Eschatoceras* occur in the region of the Upper Amazon River (Karny, 1913b: 19), and the fastigium of *Agraecia subulata* Redt. likewise is suggestive of *Acanthacara*. In the absence of more adequate material of *Acanthacara acuta*, especially mature specimens, a final decision on the generic distinctness of *Acanthacara* cannot be made.

The misapplication of *Acanthacara* to North American species probably occurred because of the superficial resemblance of the sharp, curved fastigium of *Belocephalus* to that of true *Acanthacara*, though in reality the ventral tooth and wide transverse sulcus at the base of fastigium in *Belocephalus* indicate a fundamentally different relationship. Thomas (1874: 71) used the name *Acanthacara acuta* Scudder for a female from an unstated locality; from his description, it belongs to *Belocephalus*. Also in 1874, Glover completed but did not publish an illustration (Pl. 16, fig. 17) which he labelled *Acanthacara*; it is cited by Hebard (1926: 148), but Scudder (1875) referred to the illustration as unpublished. Dodge (1888) reviewed Glover's work in detail; the first 13 plates of Orthoptera in Glover's Illustrations were published in 1872 and the same plus 5 additional ones of Orthoptera were included in his final large work in 1878. In an April 10, 1874 letter to Osten-Sacken (see Dodge, *l.c.*, page 49) Glover wrote "I am busy revising and correcting names, notes and figures of my Orthoptera,

and have etched from additional plates from Thomas' new species collected by Hayden and Wheeler." It is likely that copies of the new Orthoptera plates were sent to Cambridge, Mass. at the same time he corresponded about Diptera plates with Osten-Sacken, who then was in Cambridge, and that Scudder saw them. At any rate, *Belocephalus* was first proposed a year later (Scudder, 1875), and on Plate 16 of Glover's work distributed in 1878 the name *Belocephalus subapterus* appeared with the notation "in Scudder's letter," showing that Glover received from Scudder the correction of the earlier wrong use of *Acanthacara*. Scudder (1901: 1) cited Glover's 1874 use without further comment.

One further use of *Acanthacara* occurred when Riley and Howard (1889) published the name *Acanthacara similis* as quoted from a letter to a correspondent who had submitted a specimen from Florida with an inquiry. There is now in the National Museum a female specimen identified as *Belocephalus davisi* R. & H. by Hebard in 1926 and also seen by him in 1915. It is from Florida and bears a Thomas manuscript type label, but the name was never validated. The specimen may be the same one Thomas called *A. acuta* in 1874; I do not know of active work on Orthoptera publications by him after 1880.

Acknowledgments

In addition to the cooperation of Dr. Howard E. Evans, Harvard University, in making a type specimen available for study, I am indebted to Dr. Irving J. Cantrall, University of Michigan, for comparing photos of *Acanthacara acuta* with specimens of Tettigoniidae in the Museum of Zoology.

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